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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/871,276	05/30/2001	Sundar Raman	US018062	8627

7590 08/13/2004

Corporate Patent Counsel
Philips Electronics North America Corporation
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EXAMINER

KIM, KEVIN

ART UNIT	PAPER NUMBER
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2634

DATE MAILED: 08/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/871,276	RAMAN, SUNDAR	
	Examiner	Art Unit	
	Kevin Y Kim	2634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 May 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,5-14 is/are rejected.
- 7) ☒ Claim(s) 3 and 4 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 May 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1,2,5-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Zhodzicshsky et al (US 5,953,367).

Consider claim 1. Referring to Fig.4, Zhodzicshsky et al teaches a method of tracking a resolved component (227) of a multipath signal (Fig.1), comprising the steps of;

despreading the resolved component (227) using a locally generated code sequence being advanced by a first delay (228) to obtain an early despreaded signal (the output of the multiplier 229),

despreading the resolved component (227) using a locally generated code sequence being retarded by a second delay (230) to obtain an early despreaded signal (the output of the multiplier 231), and

deriving a correction signal (235) from the early and retarded despreaded signals to control the tracking.

Zhodzicshsky et al further teaches the first and second delays may be adjusted, i.e., “variable” at col.5, lines 42-45.

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Regarding claim 2, the first and second delays are equal since each chip is a half chip delay. See col. 6, lines 20-22.

Regarding claims 5 and 6, since the claimed invention is identically disclosed, the first and second delays of Zhodzicshsky et al likewise “are representative of a quality indicator of the multipath signal” and “are representative of a signal to noise ratio calculated for the multipath signal.”

Next consider claims 7, 10 and 12, Referring to Fig.4, Zhodzicshsky et al discloses a Rake receiver, which is also considered as an “arrangement” or “apparatus,” comprising;

“early shifting means,” not illustrated but inherent in order to generate the early spreading sequence (228),

“first correlating means” (229),

“late shifting means,” not illustrated but inherent in order to generate the early spreading sequence (228),

“second correlating means” (231),

“adjustment means” (243). Refer to the rejection of claim 1 as to the functions of the claimed means.

Regarding claims 8 and 11, the first and second delays are equal since each chip is a half chip delay. See col. 6, lines 20-22.

Regarding claim 9, Zhodzicshsky et al describes the receiver of Fig.4 as a delay lock loop correlator. See col. 5, lines 8-9.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Zhodzicshsky et al as applied to claim 12 above.

Zhodzicshsky et al discloses all the subject matter claimed except that the receiver is "a cellular phone." Zhodzicshsky et al discloses a GPS receiver and suggests that the invention can be any ranging system using a PRN sequence. However, a CDMA cellular communication, a Rake receiver is commonly used to demodulate a multipath signal, and a tracking of despreading sequence is needed. Thus, it would have been obvious to one skilled in the art to use the tracking apparatus of Zhodzicshsky et al in the cellular phone used in a CDMA system.

5. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Zhodzicshsky et al in view of Schnauffer (US 6,636,558).

Zhodzicshsky et al discloses a tracking method as explained in connection with the rejection of claim 1 in paragraph 2, but fails to teach the method to be implemented by a software application. However, software implementation of a method by performed by hardware is well known in the art because of easily modification and upgrade among other things, as evidenced by Schnauffer. Referring to Fig.3, Schnauffer teaches a similar spreading sequence tracking method including the step of multiplying a received signal with delayed versions of PN sequence using correlators and generating a correction signal. See col.5, lines 24-47. Schnauffer further teaches the method can be implemented purely through software

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modifications. Col. 8, lines 33-35. Thus, it would have been obvious to one skilled in the art at the time at the time the invention was made to implement the tracking method of Zhodzichsky et with a software application as taught by Schnaufer when desired.

Allowable Subject Matter


6. Claims 3 and 4 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Y Kim whose telephone number is 703-305-4082. The examiner can normally be reached on 8AM --5PM M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on 703-305-4714. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

kvk


CHIEH M. FAN
PRIMARY EXAMINER